IDENTIFICATION: Single Precision Decimal Input, with Burroughs Format

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PURPOSE: This routine will read decimal data, convert it to binary and store it in sequential addresses at a specified scaling.

RESTRICTIONS: Intergers must not exceed $(2^{22}-11)$. Fractional numbers when considered as integers have the same restriction. Q may not be negative.

STORAGE: This routine is written for storage in line 20. This may be be modified by changing the line address of sector 132. The routine is written for operation in line 7. It uses 162 non-consecutive addresses of one long line. In addition, sectors F04 to F20 of line zero are used.

TIMING: This routine utilizes the RFU command. This requires a modification of the standard photo reader. The routine is fully sequenced and reads not less than 12 thirteen character words/sec.

USE: Calling Sequence

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MLX  Routine to line 7
TRU  34407$
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METHOD: It is presumed that anyone using this routine will be familiar with Burroughs tape format and data tape preparation. This routine will sense and understand the digits 0, 1, 4, and 6 in the sign position of the data word. The zero will be interpreted as a positive sign, 1 as a negative sign, 4 as a store instruction and 6 as a transfer instruction.

TAPE PREPARATION: Each set of data on the tape must be preceded by a 4 - SSSLL. The second word must contain + QQP (right justified) where Q is the scaling of the data and P is the location of the decimal point in the word. The maximum Q is 21-3P. The next M words will be data.

Successive sets of data must be in the same format. The final set of data must be followed by a 6 --- SSSLL.

Blank tape need not be provided between data sets. For convenience in tape correction, such blank tape may be provided. It will be ignored when being read into the computer.

The letters S, L, Q have their usual significance, P may take values from Ø to 7. That is; 0 P 7. It is assumed that the data is right justified in the word. If the decimal point is located after the tenth digit P = 0. For each digit the decimal point moves left P increases in value one. Short words will have no detrimental effect providing the sign is correct and the data is right justified. Elimination of leading zeros from the tape will increase the reading speed in words/sec. If only sign and 7 digits are punched, the speed would be 17 words/sec.

Termination characters such as a tab or carriage return are ignored. They may be retained for the convenience or reproducting a tape or they may be deleted as desired.

It it is desired to store data in an inverse order so as to utilize an IAM command, sector 355 may be changed to a DPS command.